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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,440	11/13/2003	Mark A. Hennecken	2003-022-TAP	8714

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EXAMINER

CHEN, ALAN S

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/712,440	<b>Applicant(s)</b> HENNECKEN, MARK A.	
	<b>Examiner</b> Alan S. Chen	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11/13/2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-14 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 15-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-3,7-14 and 18-22 are rejected under 35 USC 103(a) as being unpatentable over Idleman et al. (Idleman) in view of Fabre.

4. Per claims 1 and 12, Idleman discloses a method (*Figs. 7 and 8*) and system (*Fig. 3*) for adjusting the rate of data transfer between a high-speed multi-channel tape drive (*Fig. 10 shows what is construed to be a tape drive, comprises multiple tape units, e.g., channels; Idleman groups the units into Data Groups, i.e., D1 and D2; Column 3, lines 30-35 expressly disclose each of these groups are configurable and have "different bandwidth rate characteristics"; Note, the claims terms used, i.e., "tape drive", "channels" are very generic, without any details in the claims as to exactly what they represent*) and network interface (*Fig. 3, element 40 is construed to be a network*

*interface where the controllers interface a network of tape and disk arrays; Column 4, lines 26-40, controllers control the flow of data to/from disk drives), comprising: determining a throughput capability of the network interface (Column 2, lines 35-43, Idleman seeks to optimize data transfer rates between plurality of tape units; Column 21, lines 6+ detail arranging the physical tape units into single logical tape units to permit "maximum parallel transfer rate". Note, the independent claims do not require automatically determining maximum throughput, e.g., the user determining how the tape units are arranged will read on the claim limitations as well) and selecting a number of active channels (Fig. 10, each individual tape unit, i.e., 0, 1 or 2 is construed to be a single channel), wherein the number of active channels is selected to maximize throughput capability of the network interface (Fig. 10, as stated previously, tape units are grouped into logical units, i.e., D1 or D2 to maximize the parallel transfer rate); and responsive to selecting a number of active data channels, enabling the selected number of active data channels and disabling the remainder of the data channels (Fig. 10, TA1 and TA2 comprise Data Group 1 (D1), e.g., all the individual tape drives enabled for Data Group 1, while the remaining data channels, e.g., the data channels of Data Group 2 (D2) are not part of Data Group 1, thereby effectively disabled).*

Idleman does not disclose expressly maximizing the throughput is to match the tape drive throughput with the network interface throughput capability.

Fabre discloses automatically optimizing the throughput between a peripheral tape drive (Fig. 2, element 40; Paragraph 30 states peripheral is tape storage device)

and a host (*Fig. 2, element 110*) is mainly to match an input and output flow, e.g., communications between the host and peripheral (*Paragraph 2*).

Idleman and Fabre are analogous art because they are from the same field of endeavor or similar problem solving area in optimizing transfer rates between tape drive and host.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to optimize data transfer in Idleman by matching transfer rates between host and tape device.

The suggestion/motivation for doing so would have been optimizing data transfer in all practical circumstances means to match throughput between peripheral and host as suggested by Fabre.

Therefore, it would have been obvious to combine Idleman with Fabre for the benefit of implementing the most efficient and practical data transfer between host and peripheral.

5. Per claims 2,3,7,8,9-11 and 13,14,18,19,20-22 Idleman combined with Fabre disclose claims 1 and 12, Idleman further disclosing marking codeword bytes on individual tape units that indicate where data is to be written (*Fig. 6; Column 14, lines 15-25*). Idleman also discloses the data channels being enabled and disabled as a group (*Data Groups, D1 and D2, shown in Fig. 10*) and enabling and disabling is construed as being one channel at a time where each individual tape unit has individual markings to that system uses to discern which data group it belongs. Furthermore, the high speed tape drive is a multi-head system using a number of data channels (*each tape unit in*

*Fig. 10 of Idleman has individual tape head, and making up multiple data channels)*  
wherein the codeword markings are made across each tape unit/head/channel (*Fig. 6*).

***Allowable Subject Matter***

6. Claims 4-6 and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is the statement of reasons for the indication of allowable subject matter: The prior art disclosed by the applicant and cited by the Examiner fail to teach or suggest, alone or in combination, ***all*** the limitations of the independent claim(s) (claims 1 and 12), particularly the information which channels were selectively enabled or disabled during the write process is written to RFIDs in the tape cartridge (claims 4 and 15); adjusting rate of data transfer is dynamic (claims 5 and 16); the high-speed tape drive comprises a single head system using a number of data channels (claims 6 and 17).

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents and patent related publications are cited in the Notice of References Cited (Form PTO-892) attached to this action to further show the state of the art with respect to data transfer speed matching between a host and a tape storage device.


Art Unit: 2182.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASC  
04/26/2006



**KIM HUYNH**  
**SUPERVISORY PATENT EXAMINER**

4/28/06